PM
14 Aug 87
Pittsburgh, PA

file copy

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

ENG/MG:DSB:87-089

August 13, 1987

Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Clair:

We have been talking recently with Barry Andrews and Bill Thomas of the Florida DER concerning the Bay County Resource Recovery Facility. Permit applications were submitted to your office in March 1984 to obtain permission to construct a resource recovery facility consisting of 2 combustor/boiler trains capable of processing 255 TPD MSW each (510 TPD total). The original application stated that the likely total waste to be processed at the facility would be 300 to 350 TPD MSW and 135 to 178 TPD wood waste. These values were based on the guaranteed amount of MSW that was available in Bay County and from the local waste haulers. The facility maximum rated capacity (MCR) is 510 TPD MSW and it appears that additional MSW is now available from adjacent counties so that this facility could now operate at the maximum rate.

The emission compliance test report and a separate emission factor report for SO_2, NOx, HCl, and CO emissions were mailed in late July to Tom Moody and Bill Thomas. These reports indicate that the facility is operating in compliance with the permit conditions at its maximum rated capacity.

Florida DER permit numbers AC 03-84703 and AC 03-84704 state that the facility can process a maximum of 350 TPD MSW along with 135 TPD wood waste. The County had hoped to be permitted to operate the facility at the maximum capacity once the waste was available. Now, because of the recent availability of MSW, the facility would like to obtain permission to burn 510 TPD MSW and operate the facility continuously at this rate.

If you have any questions, please call me at (412) 636-5806.

Sincerely,

David S. Beachler

David S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0675MM-087E-2

cc: Barry Andrews, Florida DER
Bill Thomas, Florida DER
Tom Moody, Florida DER Pensacola Office
Greg Pennington, Bay County Resource Recovery Facility

Westinghouse
Electric Corporation

Resource Energy Systems
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PITTSBURGH, PA 152
PM
14 AUG
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Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

PM
14 Aug 87
Pittsburg, PA

Jill

Westinghouse
Electric Corporation

Resource Energy Systems
Division

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Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

ENG/MG:DSB:87-089

August 13, 1987

Clair Fancy
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

State Permit: AC 03-84703 & 84704
PSD #: PSD-FL-103

Dear Clair:

We have been talking recently with Barry Andrews and Bill Thomas of the Florida DER concerning the Bay County Resource Recovery Facility. Permit applications were submitted to your office in March 1984 to obtain permission to construct a resource recovery facility consisting of 2 combustor/boiler trains capable of processing 255 TPD MSW each (510 TPD total). The original application stated that the likely total waste to be processed at the facility would be 300 to 350 TPD MSW and 135 to 178 TPD wood waste. These values were based on the guaranteed amount of MSW that was available in Bay County and from the local waste haulers. The facility maximum rated capacity (MCR) is 510 TPD MSW and it appears that additional MSW is now available from adjacent counties so that this facility could now operate at the maximum rate.

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David S. Beachler, Manager
Environmental & Quality Engineering

/tlb
0675MM-087E-2

cc: Barry Andrews, Florida DER
Bill Thomas, Florida DER
Tom Moody, Florida DER Pensacola Office
Greg Pennington, Bay County Resource Recovery Facility

Copied: CHF/BT
Wayne Aronson-EPA
Pradeep Raval
Barry Andrews } 8/17/87 mr

Westinghouse
Electric Corporation

Resource Energy Systems
Division

Cost Building
2400 Ardmore Boulevard
Pittsburgh PA 15221

PITTSBURGH, PA 152
PM
14 AUG
1987

AUG 14 87

Barry Andrews
Florida DER
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHWEST DISTRICT
160 GOVERNMENTAL CENTER
PENSACOLA, FLORIDA 32501-5794

August 11, 1987

Honorable Ron Wood
Chairman, Calhoun County Board
of County Commissioners
425 East Central Avenue
Blountstown, Florida 32424

Dear Chairman Wood:

Your Central Landfill does not meet the State's new requirements for the operation of landfills and we have executed an agreement with the county outlining corrective actions and a schedule. We are concerned about your present status and the likelihood that you will not be able to meet these standards in the near future. However, there are alternatives. In example, Bay County's new Resource Recovery Facility (a refuse to energy plant) may be able to handle up to 510 tons per day of Municipal Solid Waste (MSW). At present, Bay County is providing only about 325 tons per day and thus could handle an additional 185 tons per day in out-of-county waste. The County is actively seeking additional waste sources; I understand the County estimates a tipping fee ranging from $22 to $28 per ton at present. Similarly, Timber Energy is examining the availability of MSW for a facility they are considering.

We suggest that you seriously consider any available alternatives. Some may be of mutual benefit to both parties, considering the rising costs of landfill operations. Your having given these alternatives serious consideration may also help you in the event the Department or other parties have to institute further enforcement proceedings against your non-complying solid waste operations.

Sincerely,

Robert V. Kriegel
District Manager

RVK/rkf

cc: [redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 6 1987

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Dear Sir or Madam:

The Office of Solid Waste and Emergency Response, Office of Air and Radiation, and Office of Research and Development recently concluded their integrated study of air emissions from municipal waste combustion facilities. The study evaluated emissions of more than 15 pollutants, effects of those emissions on health and the environment, and control techniques capable of controlling those emissions.

A report discussing the findings of the study was submitted to Congress on July 1. I have enclosed a copy for your reference. A full set of the technical background documents supporting the study have been provided to the Air Management Division in your EPA Regional Office. Because of their size and our limited ability to reproduce them, we are unable to forward a full set of these documents to you. Should you be unable to locate copies through the Regional Office, please let me know.

The study is available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA, 22161 (phone 703-487-4650). I have enclosed a list of NTIS numbers and prices for the documents. The prices listed include sending the documents by fourth-class mail, which may take two to three weeks. For an additional charge, NTIS will send documents by first-class mail, DHL courier, or, if the recipient has an account, by Federal Express.

Should you have any questions about the report, you may call Stephen Greene of my staff at (202) 382-4664.

Sincerely,

Joseph S. Carra
Acting Director
Waste Management Division

Enclosures

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)		Initial
		Date
2.		Initial
		Date
3.		Initial
		Date
4.		Initial
		Date

REMARKS:

Audubon Society
marshtacking; Results
of testing.

Jeffrey Palgut
247 N. Highway 22A
PC, FL 32404

formal EPA policy
risk assessment

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

- Review & Respond
- Prepare Response
- For My Signature
- For Your Signature
- Let's Discuss
- Set Up Meeting
- Investigate & Report
- Initial & Forward
- Distribute
- Concurrence
- For Processing
- Initial & Return

FROM:

DATE

PHONE:

MUNICIPAL WASTE COMBUSTION STUDY

DOCUMENT NUMBERS AND PRICES

TITLE	EPA NUMBER	NTIS NUMBER	PRICE
Municipal Waste Combustion Study: Report to Congress	EPA/530-SW-87-021A	PB87-206074	$18.95
Municipal Waste Combustion Study: Emissions Data Base for Municipal Waste Combustors	EPA/530-SW-87-021B	PB87-206082	$30.95
Municipal Waste Combustion Study: Combustion Control of Organic Emissions	EPA/530-SW-87-021C	PB87-206090	$24.95
Municipal Waste Combustion Study: Flue Gas Cleaning Technology	EPA/530-SW-87-021D	PB87-206108	$13.95
Municipal Waste Combustion Study: Costs of Flue Gas Cleaning Technologies	EPA/530-SW-87-021E	PB87-206116	$18.95
Municipal Waste Combustion Study: Sampling and Analysis	EPA/530-SW-87-021F	PB87-206124	$18.95
Municipal Waste Combustion Study: Assessment of Health Risks Associated with Exposure to Municipal Waste Combustion Emissions	EPA/530-SW-87-021G	(not yet available)	
Municipal Waste Combustion Study: Characterization of the Municipal Waste Combustion Industry	EPA/530-SW-87-021H	PB87-206140	$13.95
Municipal Waste Combustion Study: Recycling of Solid Waste	EPA/530-SW-87-021I	PB87-206157	$13.95

for Audubon Society

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
Patty	
2.	Initial / Date
3.	Initial / Date
4.	Initial / Date

REMARKS:

I got a hold of Palget and told him we would send them the permit and I would meet with Audubon Society if they requested

INFORMATION	
	Review & Return
	Review & File
	Initial & Forward

DISPOSITION	
	Review & Respond
	Prepare Response

Point Bridge Boardwalk

Jeffrey Paiget

904/763-4611

Jackie Kalk

904/785-0535

Need decision about having hearing?

File Copy

Westinghouse Electric Corporation
Resource Energy Systems Division
ENG/MG:DSB:87-064

Gulf Building
2400 Ardmore Boulevard
Pittsburgh Pennsylvania 15221
(412) 636 5800
WIN 261 5800

July 21, 1987

DER
AUG 3 1987
BAQM

Mr. Tom Moody
Florida Department of Environmental Resources
Northwest District
160 Government Center
Pensacola, FL 32501

Dear Mr. Moody:

Enclosed are two copies of the Emission Compliance Test Report for the Bay County Resource Recovery Facility in Panama City, Florida. The tests were conducted on May 12-14 and June 4-5, 1987. Mr. Bert Lent of the Panama City office of the DER observed some of the tests conducted during this test program. The rests of the tests show that the facility operated in compliance with the emission limits given in Permits AC-03-84703 and AC-0384704.

Tests were conducted while the combustor-boilers were operating at full-load conditions, processing MSW at a rate of approximately 255 tpd per train (510 tpd total).

In addition, tests were conducted during April and May to measure HCl, SO_2 and NO_x concentration levels. These emission levels are given in the Bay County Emission Factors Report that is also enclosed.

We would like to request that you issue an operating permit to allow the Bay County Facility to operate at a rate of 510 tpd MSW. We have talked to Mr. William Thomas of the Florida DER, Tallahassee office, concerning the request to operate the facility at the rated plant capacity, and are enclosing a copy of both reports for his information.

We will be sending the Certificate of Completion along with the appropriate fees to your office as soon as the Bay County officials sign these forms.

If you have any questions, or need additional information, please call me at (412)636-5806.

Sincerely,

David S Beachler

David S. Beachler, Manager
Environmental & Quality Engineering

0650MM-087E:23

cc: William Thomas, Florida DER
Nevin J. Zimmerman, Atty., Bay County Commissioners
John Zebroski, W/RESD

File Copy

EMISSION FACTORS FOR THE BAY COUNTY RESOURCE RECOVERY FACILITY

Introduction

Emission testing was conducted at the Bay County Resource Recovery Facility in Panama City Florida during April thru June, 1987. The purpose of the tests was to determine the efficiency of the electrostatic precipitator to demonstrate compliance of the facility with the permit conditions as stated by the Florida DER, and to determine the concentration of various gaseous constituents in the flue gas, namely SO_2, NOx and HCl. Acceptance Testing was also conducted to confirm the plant capacity electrical generation and the combustible content of the residue produced while operating the plant at the maximum rated capacity -- 510 TPD municipal solid waste that has a heating value of 4500 Btu/lb.

The emission compliance test report that documents compliance with the Florida DER requirements is submitted as a separate report. This report contains the stack gas concentration levels of SO_2, NOx, and HCl and the corresponding predicted emission factors for operating the Bay County Facility at a rate of 510 TPD MSW, based on a waste heating value of 4500 Btu/lb.

Test Results

SO_2 Concentration

SO_2 concentration was determined using US EPA Reference Method 8. A gas sample was extracted from the stack and pulled through a sampling train consisting of a heated filter and a series of impingers. The first impinger contained a solution of 80% isopropol alcohol (IPA) used to absorb sulfuric acid mist (H_2SO_4). The second and third impingers contained 3% H_2O_2 used to collect sulfur dioxide (SO_2). The impingers were analyzed by titrating with methyl orange to determine the SO_2 concentration levels as shown in Table 1.

The average SO_2 concentration was 187 ppm_{wv}.

TABLE 1
SO_2 CONCENTRATIONS

Date	Combustor/Boiler (unit)	SO_2 Concentration (ppm_{dv})
4/27	1	113
4/27	1	90
4/29	1	213
4/29	1	172
4/30	1	348
	Ave.	187

NOx Concentration

NOx emissions were determined by using a continuous emission monitor (CEM) and by a manual wet test method -- EPA Reference Method 7. Method 7 was used to verify the CEM emission data. In Method 7, a gas sample is extracted from the stack gas into an evacuated flask. The sample is then analyzed in the laboratory using a spectrophotometer. A Theta Sensor CEM was used to measure NOx emissions by using the chemiluminescence principle. NOx emission data was recorded onto a six-pen YEW strip chart recorder.

Table 2 contains the NOx emissions measured simultaneously by both EPA Method 7 and the CEM on the stack of Unit 2. The average NOx concentrations were 148 ppm_{dv} using Method 7 and 171 ppm_{dv} using the CEM.

Table 2

NOx Emission Tests Conducted on 5/20 and 5/21

on Combustor/Boiler Train #2

Date	Time		EPA Method 7 NOx ppm dv	CEM NOx ppm_{dv}
5/20	22252		166.1	165
5/20	2254		185.6	165
5/20	2352		136.1	155
5/20	2353		191.6	155
5/21	0052		92.5	155
5/21	0053		121.9	155
5/21	0152		84.8	140
5/21	0153		148.0	140
5/21	0249		166.6	155
5/21	0251		179.5	155
5/21	0351		191.3	210
5/21	0352		128.5	210
5/21	0451		139.6	220
5/21	0452		141.0	220
		Ave.	148	171

HCl Concentration

HCl concentrations were determined using NIOSH Method 112B. Flue gas was extracted from the stack using an EPA Method 5 sampling train. The first impinger contains a 0.1 N solution of NaOH that absorbs HCl from the gas sample. The impinger solution is then titrated with mercuric nitrate to determine the HCl concentration. Table 3 contains the results of the tests used to measure HCl emissions.

Table 3

HCl Concentrations

Date	Combustor/Boiler (unit)	HCl Concentration (ppm_{dv})
4/22	1	591
4/22	1	432
4/23	2	857
4/23	2	857
4/23	2	703
4/26	1	820
4/26	1	422
4/26	1	677
	Ave.	648

CO Concentration

Carbon monoxide emissions were measured by an in-situ Westinghouse NDIR CO analyzer. The monitor is located in the ductwork between the ESP outlet and ID fan. The emissions measured by the instrument were generally below 100 ppm_{wv} except for brief excursions that lasted from a few minutes to as long as 10 minutes in duration. Figures 1 through 7 show the printout for CO emissions during the emission acceptance test period conducted in early June 1987.

Emission Factors

The proposed emission factors for various pollutants, contained in Table 4, were submitted to the Florida DER for the facility's permit application in 1984. Emission factors were developed for particulate matter, CO, NOx, SO_2, HC and lead based on burning 300 TPD of MSW and 178 TPD of wood wastes.

Emission factors for burning 510 TPD of MSW with a heating value of 4500 Btu/lb are given in Table 5. These emission factors are based, in part, on the recent test results at Bay County, as well as previous emission data and/or emission factors proposed at other waste-to-energy facilities.

As can be seen from the last column in Tables 4 and 5, the total predicted annual emissions are very similar. Projected emission levels for CO and HC are lower, while SO_2 and NOx are slightly higher. There were no emission projections for HCl because this pollutant is not a PSD pollutant.

TABLE 4
EMISSION FACTORS[1] FOR THE BAY COUNTY
RESOURCE RECOVERY FACILITY BURNING 300 TPD MSW
AND 178 TPD WOOD WASTES

	Per train lb/hr	Per train lb/ton	Total ton/year
Particulate Matter (0.03 gr/dscf)	5.72	0.54	50
CO	115.4	10.86	1010
NOx	24.5	2.3	214
SO_2	22.2	2.09	192
Lead	0.072	0.003	0.3
HC	18.0	0.85	78

[1] Based on the PSD Permit Application submitted in 1984.

TABLE 5

EMISSION FACTORS[1] FOR THE BAY COUNTY

FACILITY BURNING 510 TPD OF MSW THAT HAS A

HEATING VALUE OF 4500 BUT/LB (365 DAYS PER YEAR)

Pollutant	Emission Test Results 4/87-5/87 Per Train	Typical Emission Factors Concentration Corrected to 12% CO_2	lb/10^6 Btu	lb/ton	Total TPY
Particulate Matter	<0.03 gr/dscf	0.03 gr/dscf	0.06	0.54	50
CO	<400 ppm_{wv}	<400 ppm (max 4 day ave)	0.398	3.58	666
NOx	148 ppm_{dv}-171 ppm_{dv}	150 ppm (annual)	0.267	2.41	223
SO_2	187 ppm_{dv}	150 ppm (annual)	0.373	3.37	314
HC	---	35 ppm (annual)	0.0218	0.196	18.24
HCl	648 ppm_{dv}	500 ppm (annual)	0.648	5.83	542

[1]Based on emission test data from Bay County and other facilities.

Figure 1

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/01/87 TIME: 20:10:17

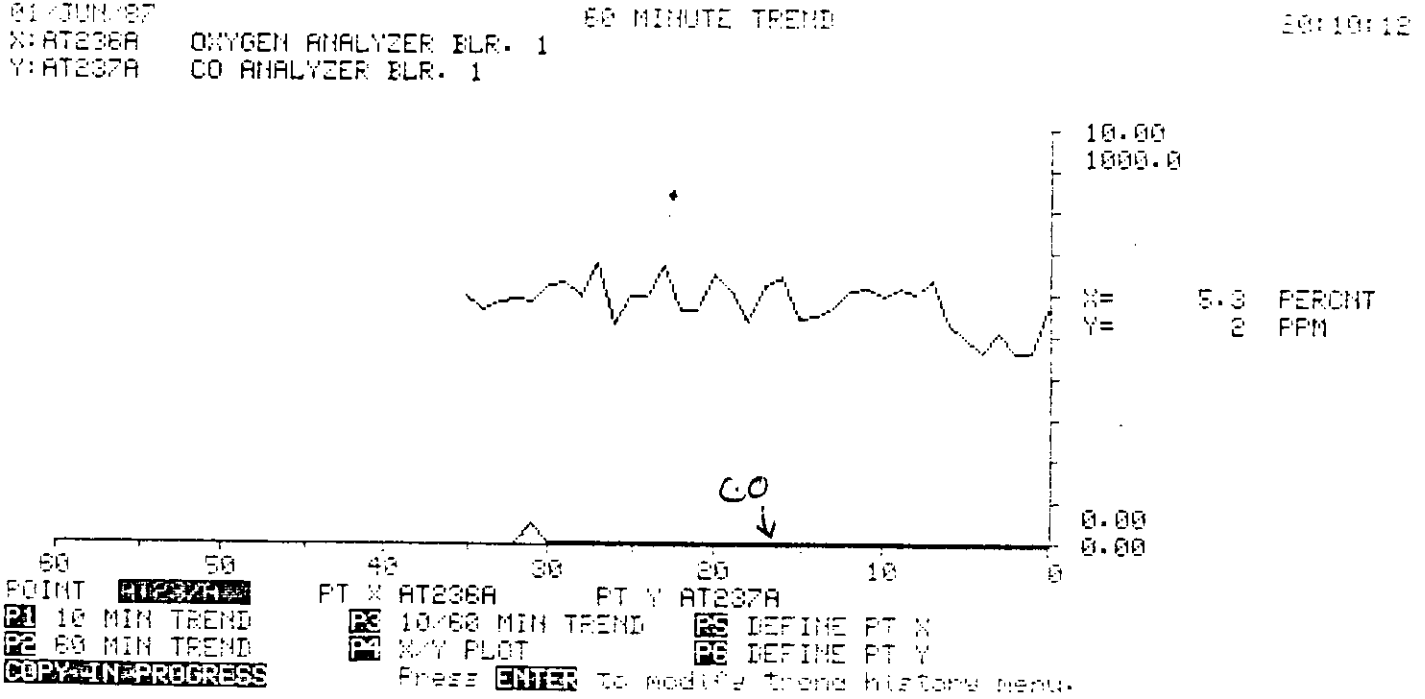


Figure 2.

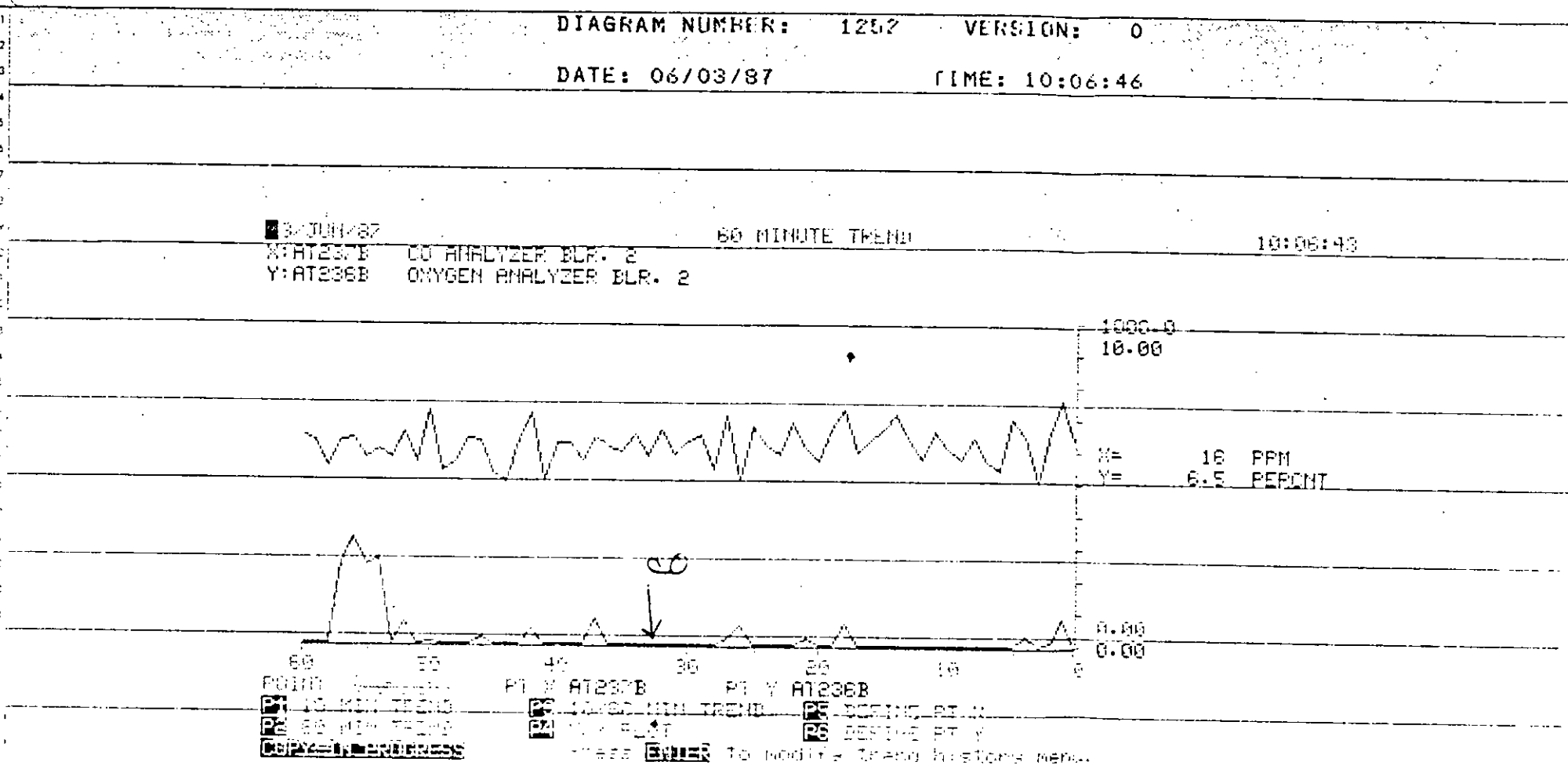


DIAGRAM NUMBER: 1252 VERSION: 0
DATE: 06/03/87 TIME: 10:06:46
3-JUN-87
60 MINUTE TREND
10:06:43
X:AT237B CO ANALYZER BLR. 2
Y:AT238B OXYGEN ANALYZER BLR. 2
1000.0
10.00
X= 18 PPM
Y= 6.5 PERCENT
0.00
60
30
0
POINT
PT X AT237B
PT Y AT238B
F1 10 MIN TREND
F2 60 MIN TREND
F3 10/60 MIN TREND
F4 X-Y PLOT
F5 DECIMATE PT X
F6 DECIMATE PT Y
COPY IN PROGRESS
Press ENTER to modify trend historians menu.

Figure 3

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/05/87 TIME: 13:41:10

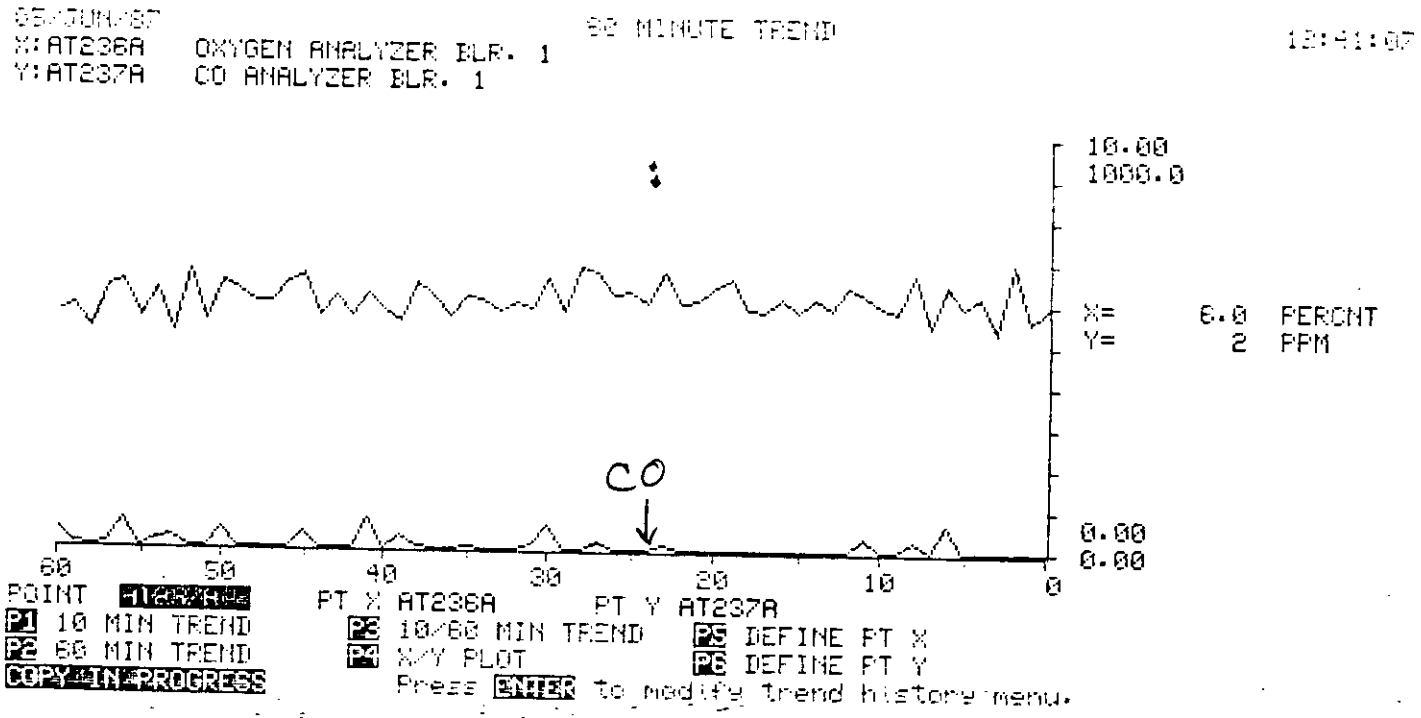


Figure 4

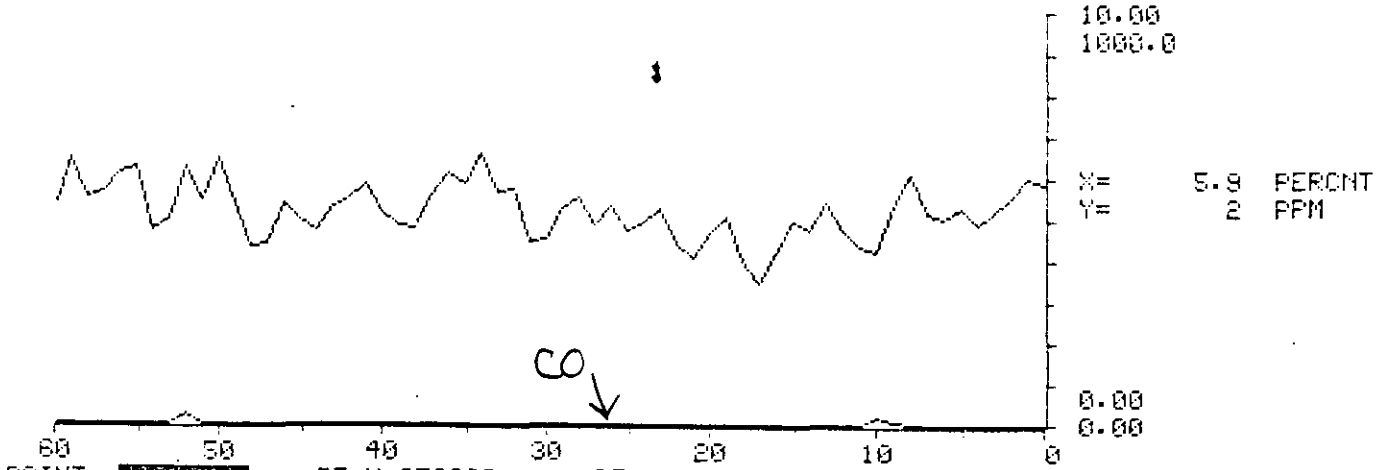
Compliance . Unit #1
Run 11

Ai = 1150

DIAGRAM NUMBER: 1152 VERSION: 6

DATE: 08/02 87 TIME: 14:00:43

05 JUN/87 60 MINUTE TREND 14:00:41
X:AT236A OXYGEN ANALYZER BLR. 1
Y:AT237A CO ANALYZER BLR. 1



POINT AT237A PT X AT236A PT Y AT237A
P1 10 MIN TREND P3 10/60 MIN TREND P5 DEFINE PT X
P2 60 MIN TREND P4 X/Y PLOT P6 DEFINE PT Y
COPY IN PROGRESS Press ENTER to modify trend history menu.

Figure 5

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/01/87 TIME: 10:31:19

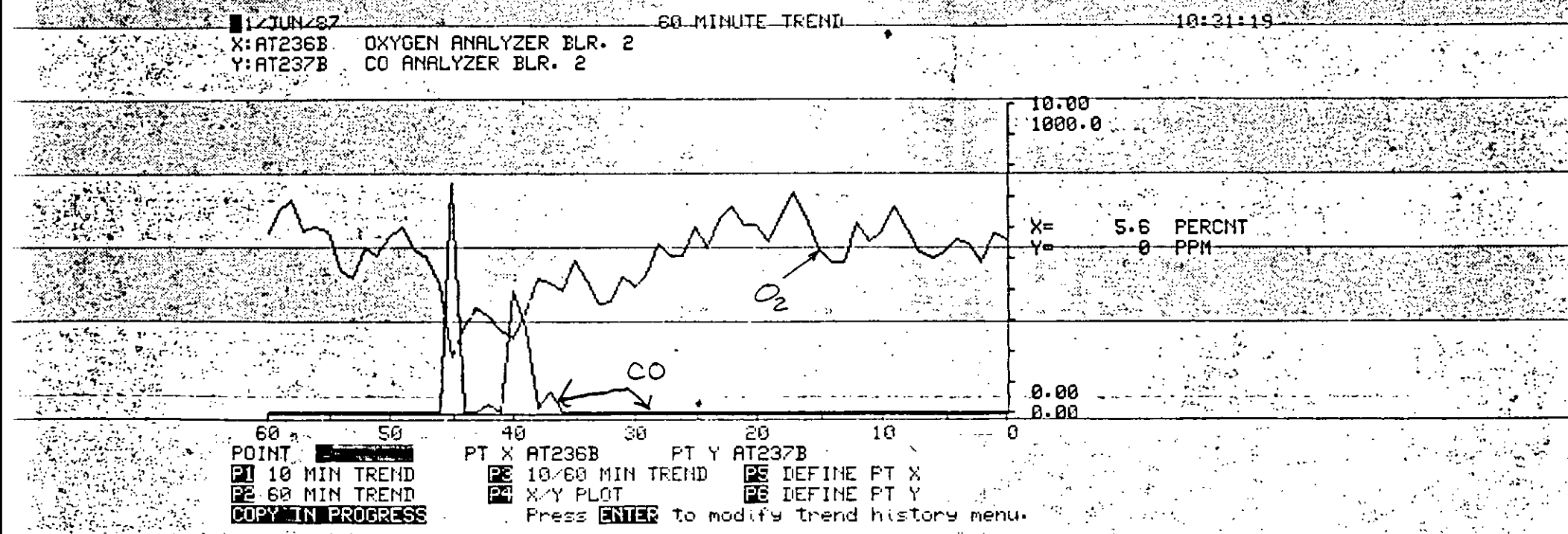


Figure 6

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/04/87 TIME: 10:49:51

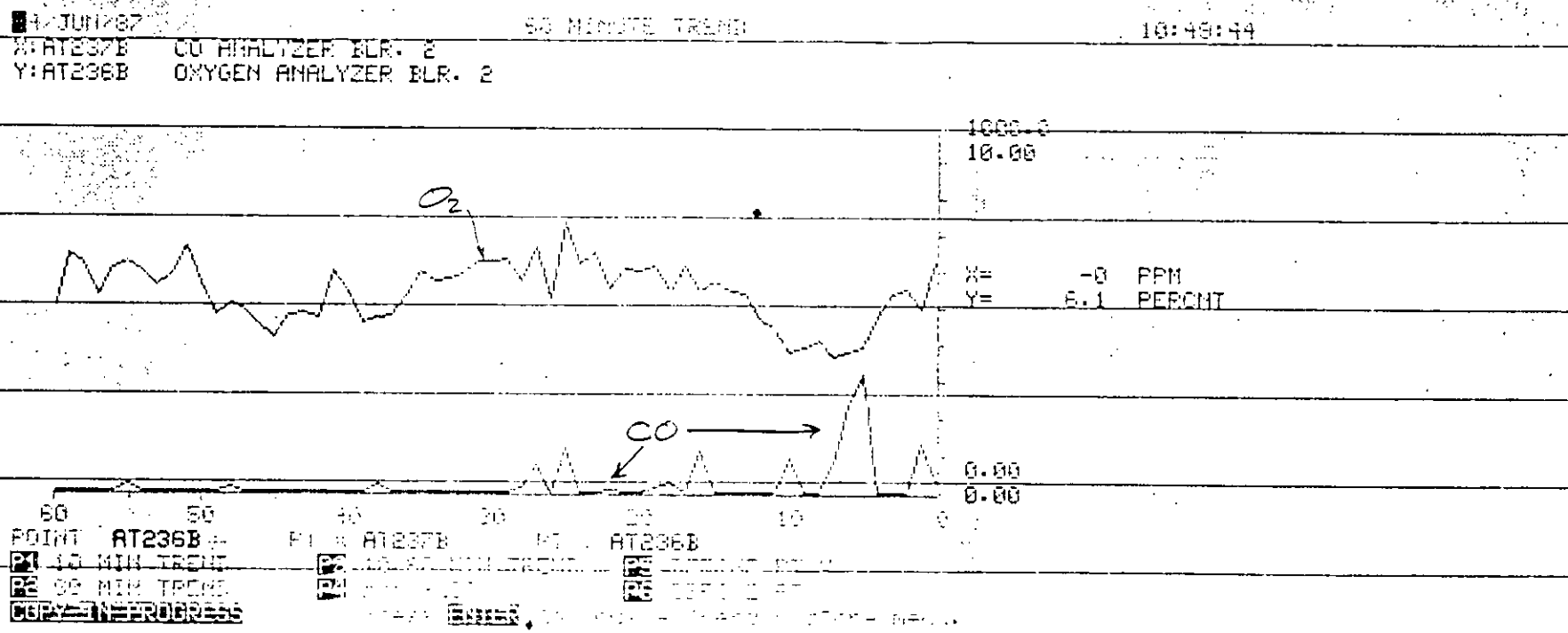
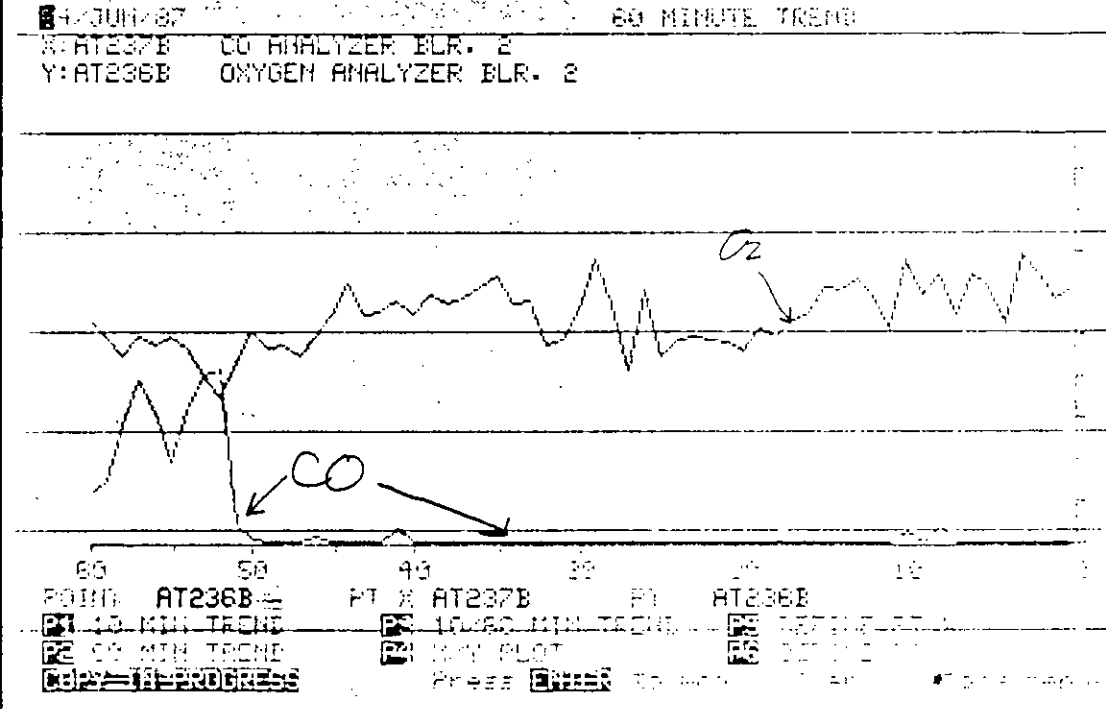


Figure 7

DIAGRAM NUMBER: 1252 VERSION: 0

DATE: 06/04/87 TIME: 14:14:48



Conclusion

Based on information given in this report, and the test results to confirm compliance with the Florida DER emission limits stated in Permit Numbers AC-03-84703 and AC-03-84-704, the Bay County Resource Recovery Facility requests that the Florida DER issue an operating permit to operate the Bay County facility at a maximum daily rate of 510 TPD of MSW (that has a heating value of 4500 Btu/lb).